BBN Systems and Technologies
A Division of Bolt Beranek and Newman Inc.

Contract No. MDA972-90-C-0074

Monthly R&D Status Reports and Quarterly Technical Reports

4th Quarter Calendar Year 1990

Submitted by:

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Submitted to:

DARPA/ISTO
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Defense Technical Informatio Center
Cameron Station
Attn: DTIC-FDAC
Alexandria, VA 22304-6145

DARPA/ISTO
Attn: Lou Kallis

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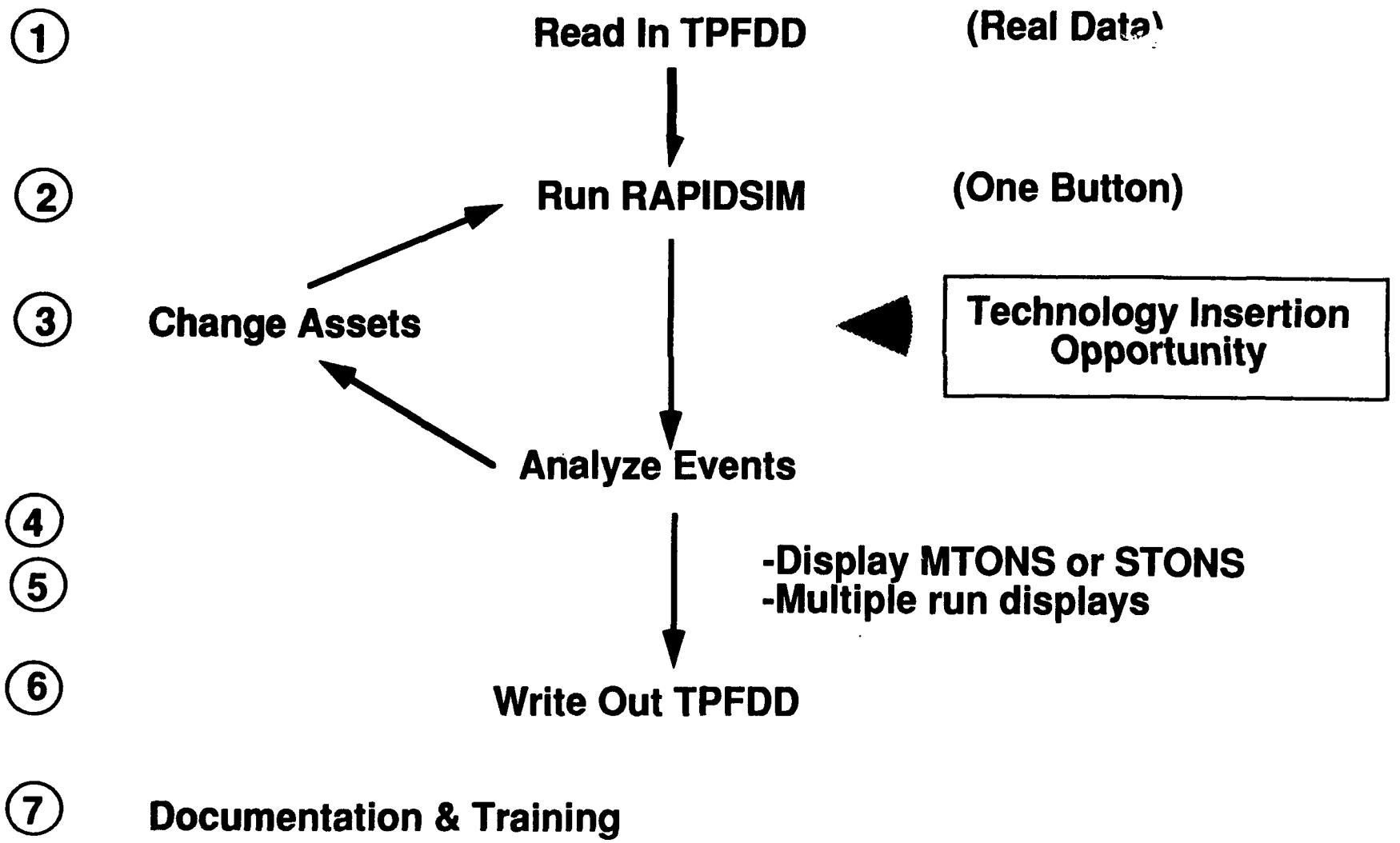
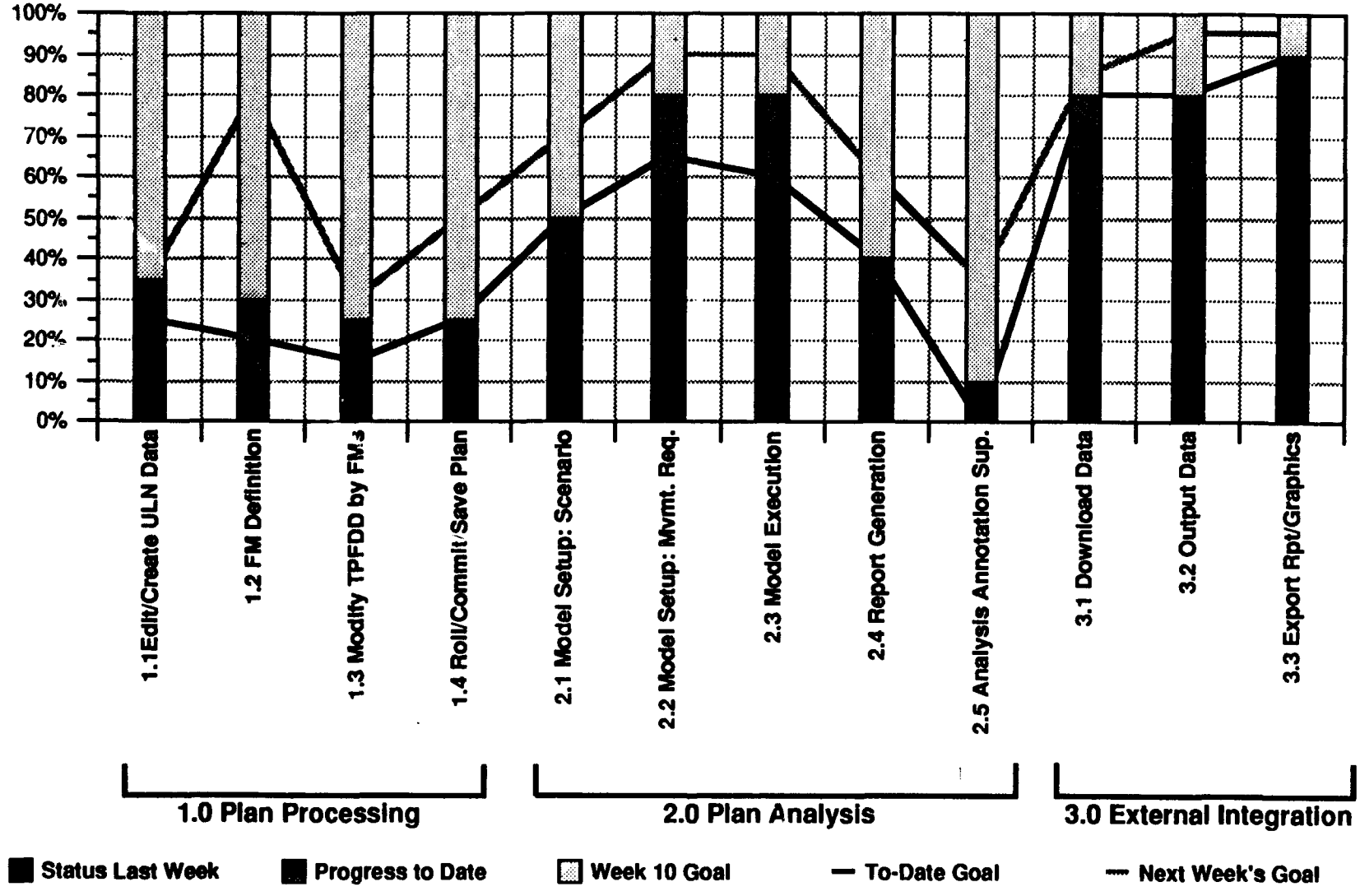
DART Operational Prototype
In-Progress Review #2

September 15, 1990

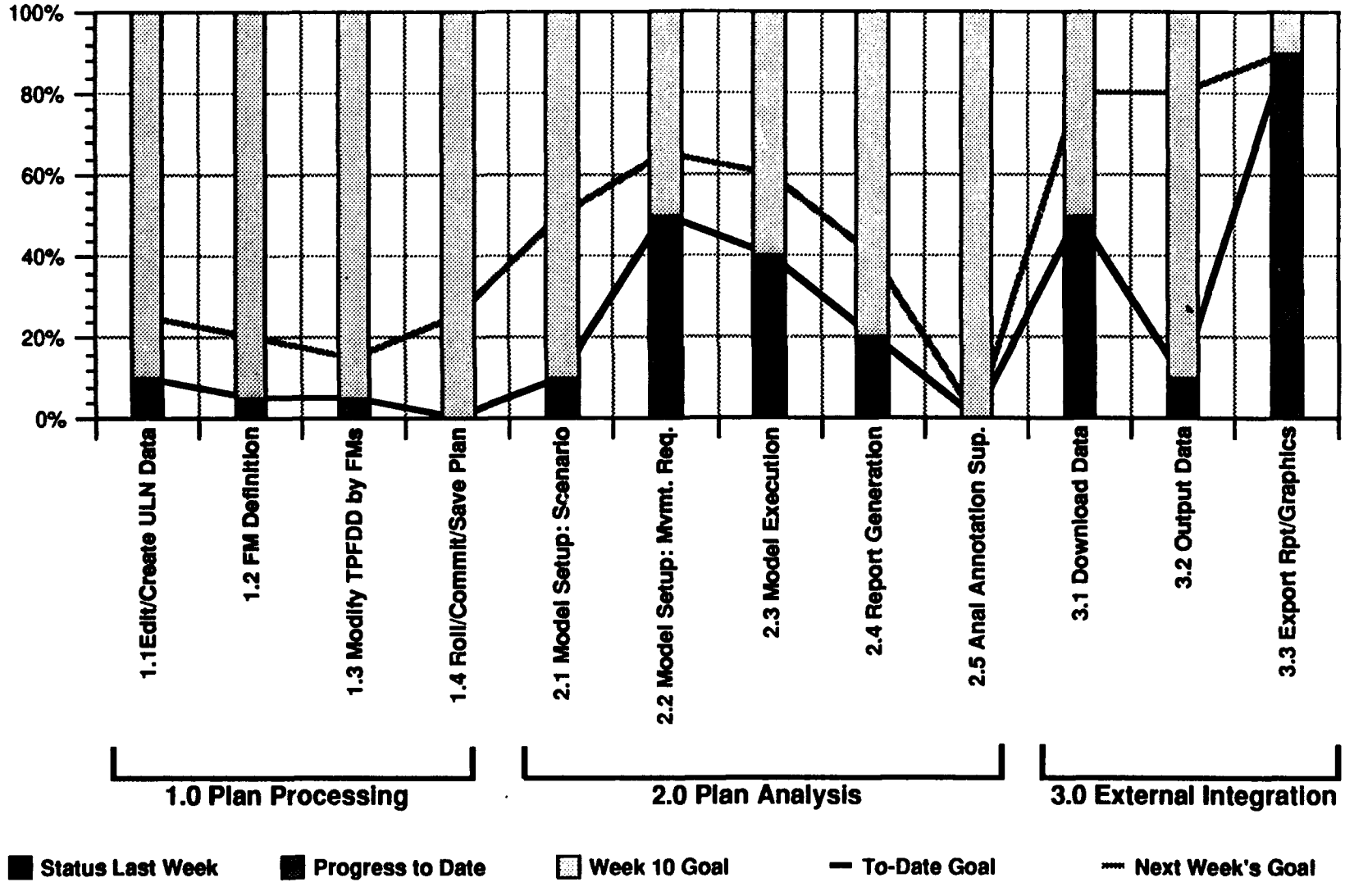
DART Operational Prototype
IPR Checklist: Week 2



Progress Summary: Week 2



Progress Summary: Week 1



DART at CINCLANT, CINCLANTFLT, AFSC

- Field demonstration at first site (week 4)
- Initial user operations at first site (week 5)
- Demonstration at second site (week 6)
- Initial user operation at second site (week 7)
- Demonstration at third site (week 8)
- Initial user operation at third site (week 9)
- User training (week 4 to week 12)
- 2 Person on site(s) support and tailoring (week 6 to week 52)
- Installation of TRANSCOM enhancements (when available)

DART Support at EUCOM

- Intense 2 person continuous on site support for 10 weeks starting on November 13
- Back up home office support during same period
- Bug fixes and interim release

DART Enhancement at USTRANSCOM

- Potential Improvement include
  - Plan analysis upgrades to include an additional transportation model (FAST) and provide the environment for further model selection.
  - System Tools which will extend the links between plan building and plan analysis, and allow operators to compare TPFDDs.
  - Plan building and plan development incorporating an Automated Force Generator (AFG) and Movement Requirements Generator (MFG).
  - External system integration to include transaction based upload/download of TPFDDs between JOPES and DART.
  - Precise definition of enhancements determined through strong user/developer interaction

DART91 Fielding and improvement plan

Cost Summary

- DART at TRANSCOM $1.1 M
- DART at EUCOM $ .23M
- Dart at CINCLANT/CINCLANTFLT/AFSC $1.5M

DART91 Fielding and improvement plan

- DART enhancement and support at USTRANSCOM
- DART intense Short Term suppprt for EUCOM
- DART deployment, support, and tailoring at CINCLANT, CINCLANTFLT, AFSC
- DART as Application for DARPA/RADC TechBase intiative

DARTCapabilities from the User's Point of View

- Natural Presentation of Data and Results
  - ◊ Graphical interfaces
  - ◊ Timelines
  - ◊ Maps
  - ◊ Analysis data
- Automates Previously Manual Tasks
  - ◊ TPFDD handling
  - ◊ RAPIDSIM operation
  - ◊ Result presentation
- Incorporates AI Technology
  - ◊ Query generation
  - ◊ Object oriented graphics
  - ◊ Incremental simulator

DART Capabilities from the User's Point of View:

- All processing on SUN workstations independent of WWMCCS host;
- TPFDDs (7100 records) downloaded from JOPES and loaded into a relational database in 27 minutes;
- Graphical presentation and editing of TPFDD in a spreadsheet format showing each transportation leg in color;
- RAPIDSIM transportation analysis module can be set up, run, and the results analyzed in minutes;
- Integration of reference file data into database for combined TPFDD/GEO/TUCHA analysis;
- Force module build/update based on a "rollback capability" where users can make trial modifications to TPFDD for "what-if" analysis and then recover database at any point in update sequence.

Dynamic Analytical Replanning Tool (DART)

Current Status

- In daily operational use at USTRANSCOM
- In daily operational use at EUCOM
- Demonstration capability in Rosslyn, Va

Dynamic Analytical Replanning Tool (DART)

Operational Prototype Effort

- Ten-week effort initiated on 31 August 1990 to support Desert Shield.
- Provides the ability to review, analyze and generate grossly transportation-feasible TPFDDs for a COA or OPLAN.
- Full demonstration at USTRANSCOM on 26 October 1990.
- Trial fielding at EUCOM 1 November 1990.